REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the above amendments and the following remarks, is respectfully requested.

Claims 21-24 are pending in this application. By this amendment, Claims 21 to 24 have been amended. It is respectfully submitted that no new matter has been added.

In the outstanding Office Action, Claims 21-24 were rejected under 35 U.S.C. § 102(e) as being anticipated by Trikkonen et al. (U.S. 2004/0002364 A1, hereinafter Trikkonen).

The specification and abstract have been amended to correspond with the claimed subject matter.

Claim 21 recites, in part:

> determining, based on the received control information, a first weight corresponding to the plurality of antennas for one of the plurality of information signals modulated by a first modulation scheme and encoded by a first encoding method, and a second weight corresponding to the plurality of antennas for another one of the plurality of information signals modulated by a second modulation scheme and encoded by a second encoding method;

> generating a first operation result by multiplying the one of the plurality of information signals by the first weight, and generating a second operation result by multiplying the another one of the plurality of information signals by the second weight; and

> generating, based on the first operation result and the second operation result, a plurality of the output signals each corresponding to one of the plurality of antennas, and transmitting the plurality of the output signals to the system of the communication partner,

> wherein the control information comprises a weight-related-information on the first and second weight and a transmission format information, on modulation scheme and encoding method, corresponding to the weight-related-information, the modulation scheme and encoding method corresponding to the transmission format information being

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> determined based on the signal quality calculated on the
> assumption that the output signals of the plurality of antennas
> are generated utilizing the weights corresponding to the weight-
> related-information and transmitted simultaneously.

Claim 23 recites similar subject matter in device format. It is respectfully submitted that

these features are neither disclosed by, nor rendered obvious by, Trikkonen.

Trikkonen is directed to a wireless communication system including a multiple input

multiple output (MIMO) system.[1] In Trikkonen "one of said transmitters is arranged to

transmit to one of the receivers, said one transmitter is controlled in dependence on the

number of antennas of the transmitter and the number of antennas of the receiver."[2]

Trikkonen determines at least one parameter of one transmitter, at least one parameter of a

receiver, at least one parameter of a wireless environment and controls the transmitter to

transmit to the receiver in dependence on the at least one determined parameter.[3]

In at least one embodiment, Trikkonen transmits a pilot or training signal from the

base station 2 to the mobile station 3, the pilot or training signal is analyzed and the PRN

information transmitted back to the base station 2 via an uplink 303.[4] Trikkonen states:

> Therefore in embodiments of the present invention
> space-time codes are produced and used to advantageously
> encode the modulated symbols in order to allow greater
> efficiencies in channel capacity to be exploited, while also
> allowing the created codes to be simply detected at the
> receiver.[5]

Trikkonen further states "[i]n order to transmit the number of antenna resources

should be equal to or greater than the number of beams to be transmitted."[6] Trikkonen

further describes pseudorandom beams[7] to create transmit diversity into a message by

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[1] Paragraphs [0001] and [0006].
[2] Paragraph [0014].
[3] Paragraph [0017]. See also Claim 31.
[4] Paragraph [0091] and Fig. 4a.
[5] Paragraph [0126].
[6] Paragraph [0129].
[7] Paragraph [0133].

pseudorandomization.[8] Trikkonen therefore, uses "complex weight factor which features a phase factor which changes continuously (in other words performs a phase sweep) or discretely (performs phase hopping)."[9] Trikkonen adds "the complex weight factor w_b may be different for different antenna array elements."[10]

In the embodiment of FIG. 6, the base station controller circuitry allocates resources which "can be time division multiplex slots, frequency division multiplex slots, codes, antennas."[11] In one embodiment, Resource Allocation Circuitry controller 157[12] controls the space-time controller 184[13] so that "matrix W effectively provides weights to the different beams which take into account for example the condition of the channel."[14]

Trikkonen, however, fails to describe the combination of features of Claims 21 and 23 described above. Thus, Trikkonen fails to describe determining, based on the received control information, a first weight corresponding to the plurality of antennas for one of the plurality of information signals modulated by a first modulation scheme and encoded by a first encoding method, and a second weight corresponding to the plurality of antennas for another one of the plurality of information signals modified by a second modulation scheme and encoded by a second encoding method. Furthermore, Trikkonen fails to describe wherein the control information comprises a weight-related-information on the first and second weight and a transmission format information, on modulation scheme and encoding method, corresponding to the weight-related-information, the modulation scheme and encoding method corresponding to the transmission format information being determined based on the signal quality calculated on the assumption that the output signals of the

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[8] Paragraph [0134].
[9] Paragraph [0137].
[10] Paragraph [0140].
[11] Paragraph [0307].
[12] See FIG. 3.
[13] See paragraph [0322].
[14] Paragraph [0322].

plurality of antennas are generated utilizing the weights corresponding to the weight-related-information and transmitted simultaneously. Therefore, <u>Trikkonen</u> fails to describe or render obvious Claims 21 and 23.

It is further submitted that Claim 22 and 24 are patentable at least for the reasons argued above with regard to the claims from which they depend.

Accordingly, it is respectfully requested that the rejections of Claims 21-24 be reconsidered and withdrawn, and that Claims 21-24 be found allowable.

Consequently, for the reasons discussed in detail above no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below-listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Eckhard H. Kuesters
Attorney of Record
Registration No. 28,870

Michael L. Gellner
Registration No. 27,256

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413-2220
(OSMMN 06/04)

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